

AAYUSH KHANAL

Education

BACHELOR OF SCIENCE – Leeds Beckett University – Leeds, UK
Majors: Computing and Information Technology

September 2023

Skills

- Machine Learning and Deep Learning
- Python
- SQL
- Tableau
- Forecasting and Data Analysis
- Managing teams

Projects

FOOD TYPE CLASSIFIER – Personal Project – Gandaki, Nepal

September 2023

- Utilized **Python** to analyze **Food101 dataset** from torch datasets and leveraged the potential of **transfer learning** using **CNN**.
- Implemented default transform to transform image dataset.
- Aggregated and visualized the model using **torch summary** and updated the **classifier head** to output required number of classes.
- Replicated the **state-of-the-art machine learning research paper** for experimentation with personalized dataset.

DOG BREED IDENTIFIER – Personal Project – Gandaki, Nepal

June 2023

- Utilized **Python** to analyze **Dog breed identification dataset** from Kaggle competition and leveraged the potential of **TensorFlow**.
- Converted raw images into TensorFlow **datasets** and **data loaders** with **data augmentation**.
- Used **callback settings** to track the experiment.

CRIME RECORDS ANALYSIS – Group Project – Gandaki, Nepal

November 2022

- **Led a group of 5** to build a college project on Crime records captured in the neighborhoods of western UK.
- Utilized **QSEE super-lite** to create an **ERD (star schema)** on the crime record dataset and **forward engineer** to automate the production of tables and relationship into a SQL script.
- Utilized **Oracle Apex** to perform **data warehousing** and **data manipulation**.
- Utilized **SQL commands** to successfully extract required information from the **data lake**.
- Performed **data cleaning and transformations** with **table joins and views** to successfully identify the major crime rates based on police departments.
- Dashboards were created to visually represent the data using **Oracle dashboards, excel** and **tableau**.

TITANIC SURVIVAL PREDICTION – Personal Project – Gandaki, Nepal

August 2022

- Utilized **titanic dataset** from **Kaggle** for my learning process.
- Visualized data using **seaborn**.
- Transformed and filtered data by creating a pipeline which includes **data cleaning and filtering, data encoding, data binning, feature extraction, feature engineering** and **outlier detection** using **IQR**.
- Loaded preprocessed data into a **stacking classifier** built on top of 5 different classification models (**Random Forest, Gradient Boosting Classifier, XGBoost Classifier, K-Nearest Neighbor, Neural Network (MLP Classifier), Support Vector machine, Decision Tree**)
- Evaluated the performance of the models using **sklearn metrics (classification report, confusion metrics, accuracy score, f1 score)**